



David B. Cohen  
Mayor

## CITY OF NEWTON, MASSACHUSETTS

Department of Planning and Development  
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TO: Mayor David B. Cohen  
Board of Aldermen  
School Committee  
Design Review Committee

FROM: Michael Kruse, Director of Planning and Development  
Nancy Radzicki, Chief Planner  
Alexandra Smith, Planner

DATE: June 2, 2006

SUBJECT: Newton North High School Section 5-58 Review

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### EXECUTIVE SUMMARY

The Design Review Committee has filed their final approved site plan, dated May 4, 2006, with the Clerk of the Board of Aldermen for construction of a new Newton North High School and, following completion, demolition of the existing high school. The proposed new high school building will be constructed within the existing approximately 27-acre parcel, bordered by Walnut Street to the east, Lowell Avenue to the west, Elm Road to the north, and Hull Street to the south. The new building will be shifted more towards the center of the site and closer to Walnut Street. Under Section 5-58 of the Newton Code, the Director of Planning and Development makes written findings of his review to the Mayor, Clerk of the Board of Aldermen, Design Review Committee, and Secretary of the School Committee.

The Director of Planning and Development has determined that the Design Review Committee approved Site Plan Option 4A is consistent with the City's Comprehensive Plan and any other relevant plans/studies. In addition, the Director of Planning and Development has determined that the Design Review Committee approved Site Plan Option 4A is consistent with the Site Plan Review Criteria listed in Section 30-23.

Once formally approved by the Board of Aldermen, the Newton North High School site plan must be approved by the Mayor and School Committee.



## **BACKGROUND**

The proposed Newton North High School (NNHS) project is the most complex, costly, and important public building projects in the City of Newton's history. The existing NNHS building, built in —1971, has suffered for years from numerous maintenance, HVAC, and other problems. After much study of possible replacement options, a determination was made that building a new Newton North High School would be the most cost-effective way to proceed. The existing school building will remain in service until construction of the new high school is complete.

In early 2005, the City's Designer Selection Committee recommended three finalists to the Mayor for Project Manager. The Mayor selected Turner Construction Company. During the summer of 2005, the Designer Selection Committee short-listed four design firms for interviews. In August 2005, the Mayor announced the selection of the Gund Partnership/Dore & Whittier team to be the architect on the Newton North High School project.

The Design Review Committee (DRC) began meeting in December 2005 with the design team to consider various options that were not only responsive to the School Committee's programmatic needs, but also considered the site and its surrounding neighborhoods. On May 4, 2006, the Design Review Committee voted its approval Site Plan "Option 4A."

## **TECHNICAL CONSIDERATIONS**

Under Section 5-58 of the Newton Code, the Director of Planning and Development must review the proposed site plan for any modification of municipal buildings to determine consistency with the City's Comprehensive Plan and other plans/studies. In addition, the Director of Planning and Development has determined whether or not this application is consistent with of the Site Plan Review Criteria listed in Section 30-23.

This memorandum includes any comments received by the City Engineer, City Traffic Engineer, and the Assistant Fire Chief of Operations.

## **EXISTING CONDITIONS**

Newton North High School is located at 360 Lowell Avenue in Newtonville. Four roadways border the site, Walnut Street to the east, Lowell Avenue to the west, Elm Road to the north, and Hull Street to the south, all providing access to the site. The existing site is 1,181,720 sq. ft. (27.13 acres) and is fully developed for use by the current Newton North High School and its athletic programs. The site is generally flat with the exception of a slope on the southern edge along Hull Street.

Surrounding land use is residential in character but Walnut Street to the north of the site transitions to commercial uses in the Newtonville village center. The neighborhood primarily consists of clapboard sided 2-3 story single-family residences. West and northwest of the site, along Lowell Avenue there are some multi-family dwellings. All the residences appear to have off-street parking. Most of the institutional buildings in the immediate vicinity (two churches; one of which is being converted into condominiums), the Newton Senior Center, a former elementary school (now condominiums) are multi-story brick buildings. The site itself is zoned Public Use.

The existing high school building occupies ~170,000 sq. ft. of the site along Lowell Avenue from Hull Street to Elm Road. Parking and athletic fields occupy much of the remaining site area. Currently the high school site has a football field, 10 tennis courts, 1 basketball court, 1 baseball field and 1 softball field that are available to the public when not in use by the high school or its athletic program (generally on weekends and during summer months). The high school currently supports a student population of approximately 2,200 students.

The current NNHS building is a 4-5 story brick building with flat roofs, curtain windows, and a relatively unbroken facade. The existing building is approximately 475,000 sq. ft. The building is set back from Lowell Avenue with a bus queuing and drop off lane between the high school and the street. The high school's loading docks are also located along the Lowell Avenue façade, creating a relatively hostile interface between the school and the immediate neighborhood to the west. The high school's main entrance is on Elm Road, generally out of view from surrounding roadways.

Because turf grass playing fields occupy the majority of the site, there is little notable landscaping on-site. Most of the trees and shrubs on-site are generally at the perimeter of the site or in and around parking areas.

There are 3 separate parking lots on site with access from Elm Road and Walnut Street. These lots provide a total of 331 parking spaces. In addition there are 85 spaces on the immediate surrounding streets including Hull Street and the north side of Elm Road.

### **PROPOSED CONDITIONS**

The Design Review Committee approved the submitted site plans on May 4, 2006. The proposed site plan calls for a new high school building with attached athletic and theater wings. Parking areas and athletic fields have also been redesigned. The proposed site plan places the new high school building towards the center of the site, and closer to Walnut Street than the existing school building. The building is primarily oriented north-south, similar to the existing building, with a footprint of — 175,000 sq. ft. The attached athletic wing is located closest to Hull Street; a theater wing is also attached and located closest to Elm Road. A proposed new artificial turf football stadium with a soccer field/track overlay is to be located in the center of the site, just west of the school building. According to the design team, the field has been reoriented north-south in order to reduce solar glare. Athletic fields are sited to the east and west of the proposed high school and it appears that all existing fields would be replaced with new facilities. The site appears to accommodate two baseball/ softball fields with a soccer field overlay towards Lowell Avenue where the existing high school is currently located. Towards Walnut Street there is a basketball court, and an additional soccer field. The ten existing tennis courts would remain in their current location. See attached Comparison of Site Features, from Gund Partnership dated May 17, 2006, (*SEE ATTACHMENT "A" 9*).

The main "ceremonial" entrance to the high school would be located in the center of the building on the east façade facing Walnut Street at the intersection of Trowbridge Avenue. The proposed site plan calls for a new driveway leading into the site from this intersection as well as the signalization of this intersection. This driveway would primarily be used for parent drop-off/pickup activities as well as serving visitor parking and pre-school drop-off/pickup. School bus pick up, drop off and queuing is along Elm Road with access from Lowell Avenue, as is Special Education drop-off.

The proposed high school building is two to four stories of brick and glazed glass containing approximately 400,000 sq. of floor area. The building has three distinct wings; the south wing (closest to Hull Street) would house the pool, gymnasium and athletic department locker rooms. The central portion of the building would hold the academic core and include 4 floors of classrooms, laboratories, faculty space, and meeting space. The north wing (closest to Elm Road) would hold the main theater. The proposed high school would support a student body of —1,850 students, as some students are expected to be redistricted to Newton South High School.

The building would be designed to LEED Certified standards, at a minimum, as well as new Massachusetts CHPS (Collaboration for High Performance Schools) requirements, as MA-CI-IPS includes additional criteria not addressed in LEED.

### **SITE CIRCULATION, TRAFFIC, AND PARKING**

Traffic Solutions, LLC has provided a traffic and parking analysis of the proposed site plan (see the Traffic Impact and Access Study). It is our understanding that the City Traffic Engineer is in agreement with the consultant's study findings.

The majority of the existing high school parking is provided in defined lots on the northern and western edges of the site. The total number of existing parking spaces is 331, not including the spaces along Elm Road. All of the existing parking spaces located within the parking lots are reserved for faculty with the exception of 15 student permits sold to a select number of seniors. Additional on-street parking is available on Elm Road and Hull Street. Off site parking spaces (Hull Street, Austin Street, etc.) are primarily used by students who drive to school. There are parking restrictions on many of the surrounding neighborhood streets, as there are many more students who would like to drive but don't because of limited on- and off-street parking. Parking is currently restricted on both sides of Lowell Avenue and Walnut Street along the high school property.

The proposed site plan has pedestrian access to the building from all four surrounding roadways. This is a critically important detail to mention. There are four drop off points around the site and two main parking lots. Significant access and circulation changes include making Elm Road a through street with two-way access between Walnut Street and the north entrance to the school, and one way traffic from Lowell Avenue which would include school bus and special education bus pickup and drop-off on the one way portion, and parents pickup and drop-off from Walnut Street along the two way portion. The other significant change is the proposal of a new site drive opposite Trowbridge Avenue at the proposed main entrance to the school. As proposed, this new intersection would be signalized in order to facilitate pedestrian access to the main entrance as well as pickup and drop-off circulation. The City Traffic Engineer and Planning Department strongly support this proposed new intersection. According to the design team, the site plan provides for 335 off-street parking spaces. The two main parking lots are located near the corner of Walnut Street and Elm Road, and along Lowell Avenue. Both of these lots would provide parking for faculty and staff, with any remaining spaces available to select senior students. Submitted site plans show that there is on-street parking along one side of Hull Street, and the possibility of on-street parking along one side of Lowell Avenue.

With regard to site circulation, traffic and parking, the Planning Department would ask the design team to consider locating bus pickup and drop-off as close as possible to the new high

school building. Additionally, there are several questions that the design team should be prepared to answer at the June 6 public hearing on this item.

- Where will athletic busses queue prior to, during and after athletic events?
- Where will bike storage be located?
- Will the MBTA bus stop on both north- and southbound Walnut Street be affected by the proposed site plan?

### **CONSISTENCY WITH CITY'S COMPREHENSIVE PLAN AND OTHER PLANS/STUDIES**

Under Section 5-58 of the Newton Code, the Director of Planning and Development must review the proposed site plan for any modification of municipal buildings to determine consistency with the City's Comprehensive Plan and other plans/studies.

The City's Comprehensive Plan was adopted by the Board of Aldermen in 1979. That plan includes goals and policies for three elements: Land Use, Housing, and Open Space. Only one goal from the Land Use element appears to be relevant goal with regard to the proposed Newton North High School site plan, as follows:

*To provide for commercial, industrial, and institutional uses which are compatible with, and supportive of the City's residential character.*

Although there are no other plans or studies approved by the Board of Aldermen that should be taken into consideration for review of the Design Review Committee approved Site Plan Option 4A, it is important to note that the Comprehensive Planning Advisory Committee (appointed by the Mayor in the spring of 2002) recently submitted an updated Draft Comprehensive Plan to the Mayor. A Public Services and Facilities Goal included in that draft plan states that "(t)o use the development and maintenance of public facilities as an exemplar of that which is sought from all development, including (among other points): Achieving excellence in design so that public facilities are visually appropriate to their community context."

*The Director of Planning and Development has determined that the Design Review Committee approved Site Plan Option 4A is consistent with the City's Comprehensive Plan and other plans/studies.*

### **SITE PLAN REVIEW CRITERIA**

The Director of Planning and Development has also determined whether or not this application is consistent with of the following Site Plan Review Criteria listed in Section 30-23:

A. **Convenience and safety of vehicular and pedestrian movement within the site and in relation to the adjacent streets, properties or improvements**

The design team has given serious consideration to the convenience and safety of vehicular and pedestrian movement within the site and the proposed site plan appears to offer good pedestrian and vehicular access from all surrounding streets. Within the site there are multiple drop-off and pick-up areas and the parking lots are dispersed throughout the site. Additionally, the site plan includes a network of pathways and sidewalks that allow

pedestrians to access the school building from many points around the site without any vehicular conflicts.

Primary access to the site for emergency service personnel and vehicles would be provided via Elm Road and Walnut Street. It appears access will be provided on all four sides of the building, with access to the west side of the building over mountable surfaces.

The proposed site plan includes a number of changes to the site circulation patterns including Elm Road, which is to be used as a through street with one-way traffic eastbound from Lowell Avenue for high school staff and school bus drop-off. From Walnut Street westbound along Elm Road to the proposed high school that would allow for two-way access to the north entrance with a loop for drop-off/pickup. The Transportation Planning Coordinator points out that the width of Elm Road is unclear, and the traffic consultants should clarify whether parked buses may interfere with moving traffic (including other buses) and high school staff vehicles. It is also unclear if this access will be available to parents for pickup and drop-off, and if there will be parking restriction on this street. Would parked vehicles and busses interfere with emergency vehicle access? Though the traffic consultant has stated that there appears to be adequate school bus pickup and drop-off along Elm Road, a diagram should be provided showing how circulation will work at the end of the school day.

The proposed site plan provides access to the main entrance of the site at the intersection of Walnut Street and Trowbridge Avenue. This intersection would be enhanced with the addition of a new driveway opposite Trowbridge Avenue into the site with this intersection becoming signalized. The City Traffic Engineer has already confirmed that adequate sight lines exist for vehicles traveling along Walnut Street (at the 85<sup>th</sup> percentile of observed speeds). Further information on school zone signage and improvements to Walnut Street should be further detailed by the design team's consulting traffic engineer. The plans appear to include parking around the circle at the main entrance. It is our understanding that any parked vehicles around the circle would not interfere with emergency vehicle access. It is our further understanding that all parking stalls and aisles meet the dimensional requirements of the City's Zoning Ordinance.

For more information on site circulation and traffic please see the Traffic Impact and Access Study prepared by Traffic Solutions, LLC.

B. Adequacy of the methods for regulating surface water drainage

At this stage in the planning process (initial design concept), the design team continues to work with City staff to determine appropriate methods of waste disposal and storm water management. A copy of the City Engineer's preliminary review, dated June 1, 2006) is included herewith (*SEE ATTACHMENT "B"*). Further detail is expected from the design team prior to filing architectural schematics for review by the Board of Aldermen.

**C. Provision for off-street loading and unloading of vehicles incidental to the serving of the building and related uses on site**

A loading area is positioned on the north side of the building with access via Elm Road. It appears there are two loading docks located in this area between the football stadium and the basketball court. Proposed site circulation patterns should minimize conflicts between vehicular and pedestrian movements on site and the loading docks appear to be sufficiently screened from abutting residences.

**D. Screening of parking areas and structures from adjoining premises. Location of parking between the street and existing or proposed structures shall be discouraged**

The design team has given serious consideration to the screening of parking areas and structures on the site by spreading the parking around the site and designing appropriate landscape buffers between each of the parking areas and abutting residences. The new high school building appears to be sited in a way that will reduce the scale and massing of the building from the neighborhood's perspective.

More detailed landscape plans are expected prior to filing architectural schematics. Though not required, the Planning Department recommends the design team meet the screening requirements for outdoor parking facilities containing more than five stalls in Section 30-19 (i) of the Newton Ordinances.

**E. Avoidance of topographic changes; tree and soil removal shall be minimized**

The site is generally flat and it appears that the design team is trying to minimize any topographical changes. According to submitted plans, it appears the design team is proposing to sink the football stadium field by approximately 5 ft. in order to reduce the profile of the stadium.

**F. Location of utility service lined underground wherever possible. Consideration of site design including relationship to nearby structures**

The proposed new school would be located towards the center of the site and has many angles to it, which will help reduce the scale and massing of the building. Parking and drop-off areas have been dispersed around the site in order to help distribute traffic evenly on surrounding streets. Based on the submitted conceptual building elevations, the proposed new high school appears to be quite modern yet relates to other institutional buildings in the surrounding neighborhood with a brick and glass facade.

In our opinion, the design team has given serious consideration to site planning and design principles in order to discover the best possible layout for the new high school and related athletic facilities.

**CONSTRUCTION MANAGEMENT**

The assumed approach to the construction of the new high school is that the existing school will remain in operation while a new school building is constructed elsewhere on site. Upon completion of the new school building, the existing building would be demolished followed by



the remaining site improvements. A major concern during the construction period is maintaining safe and healthy conditions for students, faculty, staff, and visitors. During construction, it will most likely be necessary to bus students to and from off-site athletic facilities and parking lots.

Prior to the issuance of any building permits the Construction Manager should submit a Construction Management Plan ("C.M.P."), and will be expected to perform all construction in accordance with the C.M.P.

### **CONCLUSIONS AND RECOMMENDATIONS**

Submitted plans propose the construction of a new 2-4 story high school with related ancillary facilities for athletic use. Plans also include circulation and parking improvements within the campus including making Elm Road a through street and creating a new inroad and signalized intersection at the main entrance of the building at Trowbridge Avenue. Proposed site plans appear to offer good pedestrian and vehicular access from all surrounding streets with multiple pickup/drop-off and parking areas dispersed throughout the site. The site plan includes a network of pathways and sidewalks that allow pedestrian access to the school building from many points around the site without vehicular conflicts. Proposed plans indicate 335 parking spaces will be provided, maintaining the existing number of spaces on-site. It also appears that all existing athletic fields will be replaced on-site.

*The Director of Planning and Development has determined that the Design Review Committee approved Site Plan Option 4A is consistent with the City's Comprehensive Plan and any other relevant plans/ studies. In addition, the Director of Planning and Development has determined that the Design Review Committee approved Site Plan Option 4A is consistent with the Site Plan Review Criteria listed in Section 30-23.*

### **ATTACHMENTS:**

ATTACHMENT A — MEMORANDUM FROM DAN R UTLEDGE, GUND PARTNERSHIP, DATED MAY 17, 2006

ATTACHMENT B — MEMORANDUM FROM CITY ENGINEER TO DIRECTOR OF PLANNING, DATED JUNE 1, 2006



# memorandum

FROM: Dan Rutledge  
 DATE: 17 May 2006  
 RE: Newton North High School

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## Comparison of Site Features

Feature	Existing	Proposed
Building		
Building Area	475,586 sf	399,140 sf
Building Footprint	166,842 sf	175,000 sf
Playing Fields		
Stadium	Football only (natural turf)	Multi Sport - football, soccer, lacrosse (artificial turf)
Practice	2 fields including softball field overlay	2 fields including baseball/softball field overlay
Base Ball	1 field	1 field
Soft Ball	1 field	1 field
Tennis	10 courts	10 courts
Basketball	1 court	1 court
Parking		
On Site	331 spaces	335 spaces
On Street Frontage (including N. side of Elm)	85 spaces	152 spaces

[gundpartnership.com](http://gundpartnership.com)

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City of Newton



David B. Cohen  
Mayor

**DEPARTMENT OF PUBLIC WORKS ATTACHMENT B**  
**ENGINEERING DIVISION**  
OFFICE OF THE CITY ENGINEER  
1000 Commonwealth Avenue  
Newton Centre, MA 02459-1449

June 1, 2006

To: Michael Kruse, Director of Planning

From: John Daghlion, Associate City Engineer  
Lou Taverna, City Engineer

Subject: Administrative Site Plan Review — Newton North High School

CC: Nichols Parnell, AIA Commissioner of Public Buildings (via email)  
Linda Finucane, Associate City Clerk (via email)  
Nancy Radzevich, Chief Planner (via email)  
Alexandria Ananth, Planner (via email)

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In reference to the above site, we have the following comments for a plan entitled:

*Newton North High School*  
*Prepared by: Judith Nitsch Engineering, Inc.*  
*Dated May 4, 2006*  
*And*  
*Memorandum*  
*Dated: May 25, 2006*  
*Schematic Drainage Design*  
*Prepared by: Judith Nitsch Engineering, Inc.*

Drainage:

Summary: The existing site drainage system is a closed system, with catch basins collecting stormwater runoff and discharging the stormwater into the City's drainage system on Lowell Street (western part of the site), or into the culvert running parallel to Walnut Street (eastern part of the site). There are no stormwater quality devices in the existing catch basins. As there is an existing school building on the site, the proposed project will result in a small increase in impervious area over the existing site.

The proposed drainage system consists of new catch basins with four-foot sumps that meet the DEP's Stormwater Management Policy. On the eastern part of the site, the catch basins will discharge into the City's drainage culvert. On the western part of the site, a detention basin/infiltration system is proposed to be constructed under the proposed multi-use field. The basin will collect stormwater runoff, and slowly dissipate the stormwater into the groundwater,

rather than into the City's drainage system. An overflow system, for stormwater above the 100-year storm, will convey stormwater to the City's drainage system on Lowell Street.

A water reuse/rainwater harvesting system is also proposed to collect roof runoff to be reused as toilet flushing water. The system is sized for small storm events, not the 100 year storm.

The proposed stormwater management system is an improvement over the existing drainage system. There will be no increase in the rate of stormwater runoff from the site. The stormwater management system meets the intent of the City's stormwater management policy.

Comments:

1. One test pit and percolation test in accordance to Title V shall be performed within 20' of proposed on site drainage facilities. The groundwater elevation is also needed within the area of the proposed underground storage systems. The soils logs and soil testing shall be submitted with the final design of the drainage system, stamped by a Registered Professional Engineer.
2. A hydrology study for the City's 100-year storm event of 7.0" over a 24-hour period will be required for the final design. Pre & post watershed maps at 40-scale will be needed to verify the boundaries & break points for the subcatchment areas of the site.
3. A stormwater operations & maintenance plan/manual is needed. The plan needs to include at a minimum: semi-annual sweeping of the access driveways, semi-annual cleaning of the deep sump catch basins & water quality structures, inspection of the infiltration system, and certified reports submitted to the City.
4. As the site is over 1 acre, pre & post construction activity will need to conform to NPDES (National Pollution Discharge Elimination System) requirements, and the DEP Stormwater Management Plan. An individual NPDES Permit will be required for this project.
5. Detailed profile(s) of the proposed drainage system will be required for the final design. Pipe material, hydraulic calculations, slopes, rim & invert elevations for all structure & pipe network is needed.
6. Details of the water quality structures will be needed for the final design.
7. The City's standard for gas trap outlet's is Neenah R-3705 or equal.
8. An approved type of siltation control will be required for the final design.
9. Details of the water re-use cisterns for the final design will be required. Cross connection control measures will be required in accordance with 310.CMR.22.22. An air gap between the recycled water system and the potable water system is an acceptable means of cross connection control.

Sewer:

- 1 A detailed profile is needed which shows the existing water main, proposed water service(s), sewer main and proposed sewer service(s) with the slopes and inverts labeled to ensure that there are no conflicts between the sewer services and the water service, or any other utility. The minimum slope for a service is 2.0%, with a maximum of 10%. All construction shall be in accordance to the Massachusetts State Plumbing Code.

Water:

1. Fire flow tests will be required for the design of the fire suppression system. Hydraulic calculation will have to be submitted to the Newton Fire Department for approval.

Construction Management:

1. Construction Management plan and/or report will be needed that outlines: construction phasing, sequence, methods of operation, address site specific specialty issues, siltation, noise control methodology, staging of materials, construction workers vehicle parking, impact as pertained to National Pollution Discharge Elimination System II (NPDES II) permit requirements.

If you have any questions please feel free to contact John Daghljan at 617-796-1023.